

Wilder (B. G.)

## NOTES ON THE BRAIN.\*

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*ADDITIONAL Case of Independence of the Paroccipital Fissure.*—In my recent paper "On the Paroccipital Fissure" (76, 308), I gave the result of a tabulation of the reliable specimens and figures accessible to me as follows: among 43 hemispheres, the parietal and paroccipital are continuous in 21 and separate in 22. Since the publication of that paper I have prepared the perfectly fresh brain of a negro child (No. 1834 of the Museum of Cornell University) that died at birth. In addition to other interesting facts which I hope to present at a future meeting, this brain has the two fissures totally independent on the right and barely united by a very shallow junction on the left. Even, then, if the latter be admitted as technically an example of continuity, the totals are now 22 unions to 23 cases of independence.<sup>1</sup> This brain, it will be seen, also illustrates Ecker's generalization, that the interruption of his "interparietal," which he regards as normally a continuous fissure, occurs more frequently on the right side. The interruption has now been observed on 10 right sides and only 4 left, while the junction occurs on 11 left and only 6

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<sup>1</sup> Since this paper was read Dr. C. L. Dana has kindly put in my hands his notes and diagrams of twelve hemispheres in his possession: in seven the parietal and paroccipital are connected, how deeply not ascertained; in one the junction is by a "very shallow depression"; in the other four, the separation is complete. The paroccipital is likewise wholly independent on both sides of a second brain of a negro child at birth (No. 2041, M. C. U.) which was removed by Dr. Formad and sent to Dr. C. K. Mills who generously turned it over to me. Admitting that Dana's case of shallow union should be placed with the series of continuity, the totals are now thirty cases of continuity to twenty-nine of complete independence.

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right. It remains to ascertain the cause and significance of this difference between the two sides. As stated by me in 1873 (II, 219) a fissure represents more cinerea than a superficial gyral surface of equal width, so we may associate this greater frequency of cinereal increase in a limited locality with the commonly superior weight and activity of the entire left hemicerebrum.

*An Ental Correlative of the Occipital Fissure in the Early Fœtus.*—As shown by the exhibited photograph and figure, in a fœtus (No. 1816 in Mus. of Cornell University) estimated to be about four months old, there is, immediately opposite the somewhat deep occipital fissure, a distinct elevation of the mesal wall of the postcornu, just dorso-cephalad of the calcar. The wall here is but little thinner than elsewhere, so that there is the appearance of a wrinkle or fold in the entire thickness as with the calcar. After the observation was made, this spring, I noticed that a similar elevation corresponding with the occipital fissure is figured by Tiedemann (Pl. IX., Fig. 2), who, however, does not mention it in the text, and that an ental elevation corresponding to the occipital fissure is mentioned by Mihalkovics (146), who implies that it is mentioned by His. Although I have not had an opportunity of looking in other fœtal brains, the distinctness of the elevation in the example here described, leads me to anticipate that it will be found a constant feature of the early fœtal brain.

Besides its constancy in the fœtus, three other questions arise in connection with it: 1. Does it persist in the adult? 2. If so, has it been already recognized? 3. How shall it be designated?

None of these questions can be answered satisfactorily with the information now at hand. At present it seems probable that with some brains the general thickening of the postcornual parietes renders this early ridge hardly, if at all, distinguishable; but that in others it may be recognized as the oblique elevation dorso-cephalad of the calcar, which was called by Henle (p. 168, Figs. 91-93) *bulbus cornu posterioris*, by Quain (II, 346) *bulb of the posterior cornu*, and by me, in ignorance of the foregoing,



*eminentia splenialis* (58, 234, 273, Fig. 44). If it should prove to be distinct from the postcornual bulb, it may well be named *eminentia occipitalis*.

Meantime, its relation to the occipital fissure in the foetus justifies the inclusion of the occipital among the *total fissures*, or foldings of the entire thickness of the coelian parietes, as distinguished from *cortex fissures*, or depressions reaching to a certain depth only. The other such cases of correlation between ental elevations and fissures are: calcar and calcarine fissure; hippocamp and hippocampal fissure; eminentia collateralis and collateral fissure; striatum and Sylvian fissure. In addition, the following are cases of structural correlation although the part does not project into the encephalocœle as an elevation: olfactory lobe and fissure; amygdala and amygdaline fissure, or postrhinal fissure. See my paper (66).

*The Fœtal Extension of the Proplex to the End of the Postcornu.*—In the adult the proplex or procœlian (lateral) portion of the prosoplex is practically confined to the cella and medicornu, with occasionally a pointed projection into the other cornu, as represented in my preparation, No. —, 385—M. C. U. Since, however, the early hemiserebrum is nearly accurately filled by the plexus, it might be expected that intermediate stages would be found on careful examination. In the photograph here shown, enlarged about two diameters from a horizontal section of a fœtal brain estimated at four months, the plexus is seen to extend to the end of the postcornu. Most of the postcornual portion, however, seems thinner and less substantial than the rest, as if in process of atrophy. Whether it comes off or simply shrinks cannot be ascertained as yet. There were indications of a similar precornual prolongation. No. 499

*Points Illustrated by the Transection of a Fœtal Brain.*—As shown in the exhibited photograph, a transection of the brain of a foetus, No. 1816, estimated at four months (the same which presented the ental correlative of the occipital fissure), exhibits several features which are morphologically suggestive.

I. The medicommissure is perfectly distinct and well preserved.

2. The procœles (lateral ventricles) are higher than wide, and half their height lies dorsad of the level of the callosum.

3. The caudatum (caudate portion of the striatum) forms a marked projection of the lateral wall.

4. The fornix at this level occupies about one third of the entire width of the cerebrum, whereas in the adult it measures not more than one fifth and probably more nearly one seventh.

5. The fimbria, constituting the margin of the fornix, reaches the *sulcus limitans*, which demarcates the thalamus from the striatum, the diencephal from the prosencephal. In other words, each hemifornix is equal in width to the corresponding thalamus.

6. As corollaries to the preceding: (A) the dorsal surface of the thalamus is wholly pial, with no endymal portion as in the adult; (B) the thalamus does not, in any sense, enter into the composition of the procœlian floor. This point is discussed at some length in my paper, **56**, pp. 460, 461.

It will be seen that most of the foregoing points are more or less distinctly related to the increase in width of the entire brain, and specifically to the lateral extension of the thalami during the later stages of foetal life.

The non-appearance of the thalamus in the procœle, and, the concomitant narrowness of the rima, are also significant, because it is the permanent condition in all other mammals with the possible exception of some other primates. Hence these facts bear upon the important question as to the nature, extent, and significance of human or primatial peculiarities.

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